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ABSTRACT

The Carl D. Perkins Vocational Education Act of 1984 mandates that the U.S. Department of Education conduct a National Assessment of Vocational Education. The National Assessment, designed following staff research and the input of experts who met in Washington, D.C. in September 1986, will focus on five broad areas: implementation of the Perkins Act, vocational education for special populations, conditions of secondary vocational education, conditions of postsecondary vocational education, and the changing economy and its skill requirements. A number of research studies will be conducted in each of these areas in order to assess the effectiveness of the vocational education programs mandated by the Perkins Act. The National Assessment will produce a final report in January 1989, with two interim reports scheduled for January 1988 and July 1988. (KC)

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STUDY PLAN
FOR THE NATIONAL ASSESSMENT OF VOCATIONAL EDUCATION

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NATIONAL ASSESSMENT OF VOCATIONAL EDUCATION
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NATIONAL ASSESSMENT OF VOCATIONAL EDUCATION

STUDY PLAN

National Assessment of Vocational Education
Study Staff

U. S. Department of Education
Washington, D.C.

December 1986

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NATIONAL ASSESSMENT OF VOCATIONAL EDUCATION

I. INTRODUCTION

Section 403 of the Carl D. Perkins Vocational Education Act of 1984, P.L. 98-524, mandates that the Department of Education conduct a National Assessment of Vocational Education. The Assessment is to provide "descriptions and evaluations" in nine specific areas: (a) the vocational education services delivered under the Act, (b) the Act's effects on modernizing the Nation's vocational education system, (c) the resources needed to meet the Nation's job training needs, (d) the coordination of vocational education with employment and training activities in the States, (e) the impact of vocational education on academic skills and employment opportunities, (f) the effectiveness of vocational education programs for individuals with limited proficiency in English, (g) the coordination of vocational education for disadvantaged and handicapped individuals, (h) the skills and competencies identified by the States to assess their vocational programs, and (i) the effectiveness of the Federal bilingual vocational training programs. These nine items are listed in expanded form in Attachment A.

Plan of the National Assessment: To accomplish this mandate, the U.S. Department of Education has established the National Assessment of Vocational Education, housed in the Office of Planning, Budget and Evaluation, and referred to, herein, as the National Assessment, or NAVE. The study will prepare a final report to Congress due in January 1989. The NAVE has identified five broad areas in which to conduct research. These are:

Implementation of the Perkins Act. Determine the direct effects of the Perkins Act on State administration of vocational education and local practice. The area is also concerned with identifying the overall capacity of State and local vocational education systems to address the priorities identified in the Perkins Act, including gaining access to high-quality vocational education for special populations and stimulating program improvement.

Vocational Education for Special Populations. Focus on groups identified in the legislation as needing more or better services. These groups include the handicapped, the disadvantaged (including the limited-English proficient--LEP), women, single parents/displaced homemakers, and adult immigrants (or others) enrolled in programs of bilingual vocational education.

Conditions of Secondary Vocational Education. Determine the academic and employment outcomes of secondary vocational education, and examine in some depth the effects of education reform, quality of vocational programming, the changing student body, and other critical factors affecting current secondary practice.

Conditions of Postsecondary Vocational Education. Examine the effectiveness of postsecondary vocational education in delivering effective training, and linking that training to jobs and economic development. Particular attention will be devoted to the connections between schools and employers and the effects of Federal and State subsidies on education and training choices.

The Changing Economy and Its Skill Requirements. Examine the responsiveness of the education and training system to changes in the economy and the demographic composition of the labor force, comparing vocational education to other sources of skill training.

The development of individual studies within these five broad areas was mainly determined by the topics identified in the Congressional mandate for the National Assessment. These topics not only specify the research, but also provide important clues to the kinds of information the Congress considers most valuable in future framing legislation. How the nine individual items of the Congressional mandate have been combined into the five areas is shown in Attachment B.

Background: Although it enunciates broad goals that help shape practice, Federal policy on vocational education is but one of the important influences on institutions and programs. Vocational education is a massive national enterprise. In elementary and secondary schools alone, the cost is appproximately $6.5 billion a year, of which the Federal contribution is about 10 percent. As a result, Federal policy operates largely at the margin. The more powerful influences on practice are generated at the State and local levels. Vocational education is also shaped through the effects of broader political, governance, and economic forces. To understand the role and limits of Federal vocational policy, it is important to understand the educational and political context in which Federal policy is implemented, and the capacity and willingness of the educational community to pursue Federal policy goals.

At the moment there are broad educational, economic, and social changes with the potential to affect significantly the nature and extent of vocational education. Among the most prominent of the educational changes are the excellence reforms and other efforts at setting more rigorous State and local standards for curriculum, promotion, testing, graduation, teacher selection and teacher pay. In addition, the rapid growth in postsecondary education over the past two decades has changed the postsecondary curriculum, expanded the opportunities for vocational education, and left many institutions competing to attract students. These and other policies and programs may well influence the location and content of instruction, as well as the balance between vocational and academic education.

Outside of education, economic conditions also help to shape the vocational enterprise. It has become commonplace to observe that the mix of occupations is shifting and that we are moving from an economy based on manufacturing to one led by the development of technology-oriented and service industries. These changes have led to reassessment of both the basic and

vocational skills needed in the workforce. At the same time, levels of worker productivity remain relatively stagnant and the youth labor force, in particular, appears plagued by a relatively intractable unemployment problem. For poor and minority youth in particular, the unemployment problem not only appears to be getting worse, but may well carry over into higher rates of adult joblessness. Federal policy, as expressed in the Perkins Act, the Job Training and Partnership Act (JTPA), and other legislation, is an important mechanism to help create the kinds of education, training, and jobs that can best meet our economic development needs and increase the productivity of all workers.

In short, the breadth of the Perkins Act and the study mandate, and the relative importance of factors other than Federal policy, provide reasons to address issues beyond the direct implementation of the Act. This approach is intended to provide information that Congress may need as it drafts a new law in 1989. For example, Congress may wish to consider more prescriptive (or less prescriptive) alternative policies for program improvement. Our research on the use of current program improvement funds, combined with examination of exemplary vocational education, may prove useful to policy development. The range of our planned inquiries is described in detail in the following sections.

Planning Activities: To draft this plan, the National Assessment has carried out an extensive review of issues and policies. Staff has consulted with representatives of the vocational education, higher education, employment training, and research communities, as well as major policymaking groups. On September 11 and 12, 1986, the National Assessment hosted a Design Conference at which invited speakers presented papers on a wide range of topics aimed at informing the research plan.* Speakers and audience engaged in spirited discussion of issues and research needs. In addition, the staff has reviewed previous major studies and has identified ongoing related research, to ensure that the National Assessment builds on what is known and avoids unnecessary duplication of effort. The staff thanks the many people who took time to write papers, send letters, and visit with us. We hope this plan reflects their questions and concerns.

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* A volume of the papers presented at the Design Conference can be obtained by writing to the National Assessment of Vocational Education, Department of Education, 400 Maryland Avenue, S.W., Room 3135/FOB6, Washington, D.C. 20202.

II. IMPLEMENTATION OF THE PERKINS ACT

The National Assessment will trace the implementation of the Carl D. Perkins Act in States and localities. The analysis will devote attention to legislative intent, to guidance in interpreting and implementing the law provided by Federal and State authorities, to the specific distribution of Federal funds, to the overall effects of Perkins on funds distribution (including State and local resources), and to the use of Federal, State and local resources for priorities identified in the Perkins Act.

Historically, Federal legislation has expressed broad educational objectives for vocational education but has been short on financial incentives to ensure that Federal objectives are carried out. The most recent national examination of vocational education found that even when States attempted to construct formulas for ensuring that Federal priorities were maintained, those efforts were often unsuccessful.

In some respects, the Perkins Act departs from that tradition. First, it mandates that more funds must be spent in economically depressed areas and/or areas of high unemployment than in other areas within a State. Second, it requires that 57 percent of the State grant funds be spent on designated special populations. Third, it further designates that almost 60 percent of those funds be used to match the excess costs of services for disadvantaged (including those with limited-English proficiency) and handicapped students. Fourth, it stipulates that all of the State grant funds for disadvantaged and handicapped students must be passed through to eligible recipients using a federally determined formula. These provisions for funding of excess costs (only), and distribution of funds (within-state) by Federal formula do not apply to the remaining funds set aside for special populations.

In other respects, however, the Perkins Act appears to provide wider latitude in the use of funds. For example, the other 43 percent of the State grant is allocated for program improvement. The only stipulations on the use of those funds are that they be matched and that they not be used to maintain existing programs. While States are urged to establish priorities for the use of those funds, there is no further Federal targeting.

As a result, it is likely that Federal priorities are not the only influences on local practice. Determining what practices are attributable to Federal support and influence is a complex matter. It will be necessary to ask both broad questions about the Federal, State, and local policies and conditions that affect vocational education, as well as to trace specific provisions of the Perkins Act. These specific questions will be of two kinds: those concerned with describing how specific requirements of the law have been carried out (compliance) and those concerned with the overall ability and willingness of States and localities to implement Federal goals (capacity). Many of the broad questions are identified in subsequent sections of this research plan. More specific questions that address Perkins implementation directly include the following:

- Given the targeting provisions, has the Perkins Act affected the distribution of Federal funds (and overall funds) for vocational education among communities with different levels of poverty, employment, and special populations, and if so how?

- Do the targeting provisions result in increased support for and enrollment in high-quality programs for special populations?

- Do the targeting provisions expand the mix of institutions and programs available to special populations?

- How have States and localities defined program improvement and exercised their discretion in the use of these funds? Do Federal funds leverage State and local dollars for program improvement?

- Has administration of the Perkins Act contributed to the goals of increasing access and improving programs?

- What is the capacity of States and localities to respond to Federal goals and what additional or alternative goals are pursued by policymakers and practitioners?

Studies: To answer these questions, the National Assessment will undertake four major studies:

The State Administration of Vocational Education. This study will be carried out through State-level case studies of the administration of the Perkins Act in approximately 15 States, identifying the major State responsibilities and powers for vocational education, with particular attention to the State role in administering the Perkins Act. State responsibilities under the Perkins Act include drafting State plans, carrying out Statewide assessments, identifying skills needed for jobs, administering set-asides and establishing program improvement priorities. The case studies will also identify major State policies and politics which influence the distribution of funds and the administration of vocational education. These might include the relative roles of secondary and postsecondary institutions, recent changes in education standards, the extent of alternative training programs, or State economic development initiatives.

Survey of State Funding. To identify the allocation process and its outcomes, the findings of the case studies will be supplemented by: a) a short national survey of State vocational policy aimed at describing how States set priorities, distribute State and Federal funds, monitor and evaluate local efforts, and carry out Statewide administrative and coordination requirements; and b) an analysis of Federal data which report on the intra-state allocation of Federal vocational education funds (General Education Provisions Act) to determine the change in allocations that has occurred over time.

Survey of Local Funding. The Assessment will undertake a survey of approximately 1,500 school districts and 500 postsecondary administrative units to determine how they have used Federal funds, the overall services provided to special populations, the relative importance of Federal funds in support of vocational services over time, the kinds of improvements undertaken and the nature of innovation. The survey will highlight information on the services provided to major special populations including the disadvantaged, the handicapped, women, single parents, displaced homemakers, and adults in need of retraining.

Local Capacity to Provide Vocational Education. State and local-level case studies will describe the overall access of special populations to vocational education, how that access has changed over time, remaining barriers, the role of Federal legislation in fostering access to high-quality programs, and best practices. The case studies will also explore the nature and effects of current reforms on vocational education, the mix of secondary and postsecondary offerings, how localities are guided or monitored by States, and how Perkins funds have been used to improve programs and coordinate with other education and training institutions.

III. ACCESS OF SPECIAL POPULATIONS TO VOCATIONAL EDUCATION

In addition to the general implementation studies described in Section II above, the National Assessment will conduct several more specific studies to determine the extent to which special populations identified in the Perkins Act participate in vocational education, identify and describe the programs in which they participate, and estimate their achievement and employment outcomes. A major study will identify the trends in participation by special populations, while additional studies will highlight the needs and opportunities of the handicapped, disadvantaged youth, and limited-English-proficient adults.

One of the most important goals of the Perkins Act is to "assure that individuals who are inadequately served...are assured access to quality vocational education programs." The Act identifies several groups for which past vocational services have been inadequate and sets aside or "targets" 57 percent of basic grant funds for these groups. They include the disadvantaged (including the limited-English-proficient), the handicapped, women, single parents, displaced homemakers, adults (especially those in need of retraining), and the incarcerated. In addition, the Perkins Act provides direct Federal support for programs aimed at limited-English-proficient adults designed to facilitate speedy entry into the labor market.

To understand the impact of both the Perkins Act and vocational education for special populations, the National Assessment will undertake the studies listed below. In designing and carrying out these studies, the National Assessment has several major research goals. The foremost goal is to describe the extent to which participation of disadvantaged youth, handicapped youth, and women in vocational education has changed over the past 15 years, since the set-asides were first introduced. The presentation of these data will be more comprehensive and extend over a longer period than any previous study.

A second goal of the National Assessment will be to determine the extent to which there is equitable access to vocational education, and if not, the impediments to access for special populations. Critics have argued that the problem of access is that there is too much access to low-quality programs but not enough access to high quality programs. This suggests that simply comparing enrollment differences over time may mask important underlying differences in the quality of education provided. To address this issue, we will examine the extent to which disadvantaged and handicapped youth have access to programs that prepare participants for high paying occupational fields or are channeled into training for low paying jobs. Among the additional questions: Are area vocational centers accessible to youth from poor areas? Are the education and training provided in inner-city high school programs and JTPA-supported agencies comparable to the education and training provided in suburban high schools and community colleges? To what extent are Federal calls for better coordination among providers breaking down the barriers between providers and resulting in greater access of the disadvantaged to institutions and programs in

which they have been underrepresented in the past? Are handicapped youth likely to be "mainstreamed" in vocational education, and are there mixes of instructional and support services that increase the ability to mainstream handicapped students? Do provisions of the Perkins Act encourage these services and increase mainstreaming opportunities?

Finally, the Perkins Act implicitly assumes that special populations will benefit from more and better vocational education. More generally, vocational education has been portrayed as an effective form of education for students who have not performed well in school or who are alienated from education. From this perspective, the occupational and academic skills learned in vocational education can improve performance, renew student interest in school, and help students compete effectively in the labor market. Insofar as available data make it possible, a third goal of the National Assessment will be to determine the relative importance of basic skills and job skills in overcoming academic disparities and succeeding in the labor market.

Studies: The following studies will be conducted:

Trends in Vocational Participation by Special Populations. This study will use longitudinal data bases, including High School and Beyond (HS&B), the new National Longitudinal Study of Youth (NLS-Youth), and the National Assessment of Educational Progress Transcript Study (NAEP) to identify patterns of enrollment in secondary vocational education by field of study, grade level, and the like for each special population. A companion study, described in the section on Conditions of Secondary Vocational Education, will examine these patterns for the population as a whole. Since these data sets all include student transcripts, it will be possible to document enrollment patterns much more accurately and in much greater detail than has ever been possible with conventional census-type methods of data collection. Major research questions include: How do the programs and fields of vocational education in which students from special population groups are enrolled compare with programs for other students? Do vocational offerings at schools with large proportions of students from special population groups vary significantly from the vocational education offerings from other schools? Are enrollments different in urban and rural areas, or among regions? To what degree have women enrolled in fields traditionally dominated by men? Are there still distinct "tracks" in high schools and, if so, are special populations more likely to be found in some tracks than others? In general, are the changes that have taken place over the past 15 years in line with the Federal goal to increase access of special populations to high-quality programs?

Special Education Students in Vocational Education. The Perkins Act emphasizes the need to "mainstream" special education students, by removing the incentive to provide special vocational education classes for handicapped students. In conjunction with the Center for Statistics and the Office of Special Education and Rehabilitation Services, this

study will collect transcripts of handicapped and other students during 1987 to describe and compare patterns of participation in vocational education. Questions to be answered include: Are the enrollments of handicapped students by program level and occupational field comparable to those of other students? To what extent is vocational education being provided in special classes as opposed to classes in which non-handicapped students also participate? Are there occupational fields in which the handicapped are more likely to be enrolled? How marketable are the skills typically gained in the programs in which the handicapped are enrolled? To what extent are special needs vocational education students mainstreamed in regular basic education programs? To what extent are handicapped students gaining access to work-study and other kinds of cooperative education programs that will help them obtain jobs after graduation?

Education, Training, and Jobs in Urban Areas. Disadvantaged youth are concentrated in urban areas, and suffer from high rates of unemployment. Critics have argued that these youths have easy access to vocational education for dead-end jobs but little access to programs that train for good jobs. At both secondary and postsecondary levels, they may move from one education or training program to the next, but fail to get jobs. Critics have also argued that at the postsecondary level the poor are channeled into a poorer quality and essentially separate system of federally funded, second-chance training. The National Assessment will study the mix of vocational education and job opportunities in urban areas to identify problems in the delivery of education and training services and the "fit" between education and training and employment. What are the patterns of training? Where do youths seek jobs? Is the training provided through vocational education and other employment and training programs appropriate for jobs that exist in the labor market? To what extent are these high-turnover, low-skill jobs? The purpose of the studies will be to describe, in as much detail as possible, the operation of the education and training system and the labor market in the communities selected.

Adult Training for the Limited-English Proficient. The Perkins Act includes a small national program of services to limited-English-proficient adults. This program has been in existence in various forms for well over a decade, yet remains a small Federal effort. Given the continuing influx of immigrants and their employment needs, the demand for expanded services is great. This study will identify the successes of the current effort, its applicability to new settings and groups, and what effort or policy mechanisms might be needed to garner additional State and local support for expanding programs. It will attempt to determine how Federal efforts to extend bilingual vocational training beyond the discretionary program can be successful.

Women in Vocational Education. During the last two years of high school, major differences consistently emerge in the coursework taken by men and women. Women tend to enroll in vocational education to a far greater extent than men and, correspondingly, take less math and

science. Moreover, the vast majority of vocational coursework by women is in traditional fields such as business and office and home economics. While research has suggested that women who enroll in business and office training receive significant short-term gains, the limitation of women to only a few occupational areas inhibits their participation in emerging occupational areas of high demand. This study will examine the participation rates of women students in different types of vocational education over time and explore the effects of academic education, basic skills training, and alternative curricula on job placement, earnings, and and labor force attachment.

In addition to these specific studies, the access of special populations to vocational education will also be examined in studies identified in other areas of this research plan. In particular, women, special education students, and disadvantaged youth will be a primary concentration of the studies of the implementation of the Perkins Act, including the local case studies and the examination of State administration. The analysis of longitudinal bases described in the sections on the condition of secondary and postsecondary vocational education will also focus on what types of education have the most positive achievement, attainment, and occupational effects for various population groups.

IV. THE CONDITIONS OF SECONDARY VOCATIONAL EDUCATION

One of the primary goals of the Perkins Act is to stimulate improvement in vocational education. Somewhat less than half of the State grant funds are set aside solely for this purpose, and the remainder are directed to a similar objective: assuring that individuals inadequately served under vocational education programs are given access to quality vocational education. In addition, the study mandate specifies that NAVE assess the quality and effectiveness of vocational education. The research of the Assessment is designed to track the past and current changes in secondary vocational education and, more generally, to assess the consequences of alternative types of secondary vocational education.

Concern about the effectiveness and future direction of vocational education comes at a time when other forces, in particular the academic reform movement, seem to be having a large impact on the scope and content of vocational and academic education. Scattered evidence indicates that enrollments and program completions in secondary vocational education have dropped during the last few years. One cause of this reduction is the widespread changes in high school graduation requirements, which have typically meant additional required coursework in mathematics, science, and fewer elective courses. Another factor which may have contributed to the decline is the adoption in many States of competency examinations in reading, mathematics, and other basic skills. These examinations may limit participation in vocational education, if traditional math, science, and social studies courses provide a better preparation for the tests than vocational courses. Alternatively, a long-term effect of competency exams might be to increase the emphasis in vocational education on teaching basic skills, perhaps at the expense of job training objectives. This tendency, of course, will be strongest for vocational courses which primarily serve educationally disadvantaged students, since these students are least likely to pass the competency exams.

The new emphasis on academic learning could ultimately reverse a tendency in some vocational fields to provide training that is quite occupationally specific. This tendency originated in part in, or was accelerated by, the 1963 Vocational Education Act, which provided funds for area vocational-technical centers and encouraged the use of job placement rates as a measure of program performance. More recently, several States have considered or enacted funding formulas in which State funding of vocational education is in part determined by the number of vocational students in a school who obtain jobs related to their vocational training. A performance incentive of this kind may induce schools, first, to become more actively involved in job placements and, second, to modify their vocational courses so that they emphasize the type of skills valued by current employers. Skills which may be valued by future employers--more general, transferrable skills--may receive less emphasis.

Vocational education could alternatively be expanded to serve other kinds of broader educational goals. Programs could be developed to stress the practical application of knowledge learned in the classroom in vocational contexts or in other ways help students connect work directly with learning in school. One

salient example is programs of vocational agriculture in rural areas. They were historically intended to foster students' problem-solving abilities and communication skills, cultivate leadership skills and a sense of community, and impart entrepeneurial abilities.

A major goal of our research will be to identify other new and imaginative efforts to improve high school vocational and academic education that may either build upon, or depart from, past approaches. For example, new programs are being developed in some communities across the country to better integrate secondary and postseccondary vocational education. These so called "2+2" or "tech/prep" programs are often in technical occupations. It is apparently not uncommon for students in postsecondary technical programs to have to repeat training that they have already received, or worse yet, enroll in remedial courses because they lack adequate math and science skills. The new technical programs are intended to eliminate these problems by laying out a structured regimen of training that in most cases will occupy the final two years of high school and two years (if needed) of postsecondary training. The training offered in high school is expected to emphasize fundamental skills in mathematics, science, and technology; these courses may be taught in a setting that provides students with substantial exposure to technical jobs. These programs bear a strong resemblance to the "college prep" program in that they clearly lay out what is expected of students who hope to enroll in postsecondary programs. Many educators believe that letting students know exactly what is expected of them will ultimately improve student performance. Although these programs are one of the more interesting new curriculum developments, objective research may demonstrate that there are alternative programs that are equally or more effective.

The goal of program improvement in vocational education is particularly important with respect to the 50 percent of the population that fails to obtain some type of postsecondary training (other than on-the-job training). Half of this group consists of high school dropouts. Since most high school vocational education is taken during the junior and senior years, high school dropouts have very little opportunity to obtain formal job training prior to looking for a full-time job.

The other half of this group, high school graduates, are the heaviest consumers of secondary vocational education (although they account for only half of all enrollments in secondary vocational education--the remainder is taken by students who eventually attend college and postsecondary vocational schools). A recent study suggested that participation in vocational education for this group is somewhat risky. Participants who obtained jobs in occupations related to their training tended to receive substantial earnings. But only small proportions of them found such jobs. And, if they did not, they tended to fare poorly in the labor market and may have been better off taking only academic courses while in high school. Of course, these findings need to be verified and replicated on additional data sets. If they prove to be robust, however, they suggest that secondary vocational education

(for students who work after they leave high school) could possibly be improved by: (a) increasing rates of job placement, (b) scaling back programs for which there is insufficient demand and expanding those with excess demands, or (c) more closely matching students with the vocational programs in which they are strongly interested. One of our research objectives is to identify schools which have had some success in addressing these concerns.

The studies described below are designed to provide a detailed and up-to-date assessment of the Nation's secondary vocational education system. Evidence concerning the relative effectiveness of alternative approaches and programs will hopefully enable policy-makers to develop and refine policies to improve the system. This information may be particularly useful to Congress as it considers reauthorization of the Perkins Act, inasmuch as the Act is minimally prescriptive with respect to program improvement activities.

Studies: Our planned research on secondary vocational education is organized around eight studies, the first two of which will describe past and current patterns of enrollment.

The Evolving Role of Vocational Education will make use of a series of large nationally representative surveys of youth to document changes that have occurred since 1960 in the patterns of high school vocational and academic education by subject matter, grade level, and student characteristics. The study will investigate the extent to which rising enrollment in postsecondary vocational-technical schools, colleges, and universities has been associated with a shift in the overall balance between academic education (typically required for admission to four-year colleges) and vocational education, as well as a possible shift in the orientation of vocational courses. In particular, we will examine the extent to which vocational courses have become more or less job-specific, broad or narrow in their coverage of occupational skills, or vehicles for career exploration or basic skill development. We will also investigate whether changes in the occupational mix of vocational education have mirrored changes in the occupational distribution of jobs in the economy. The findings from this study will provide a baseline for comparing the changes in enrollment that have occurred among special population groups, as discussed in Section III. Descriptive national data of this type has heretofore been unavailable. It should prove invaluable in assessing the effects of Federal legislation on participation in vocational education, within the context of changing patterns of school attainment and the occupational structure.

Effects of the Academic Reform Movement will use newly collected NAEP transcript data for the high school class of 1987 and other sources to examine changes in secondary enrollment patterns over the period 1982 to 1987. Since most of the academic reforms, including new high school graduation requirements and expansion of competency testing, took effect sometime during this period, a State-by-State comparison of secondary enrollment patterns will permit identification of the effects of the academic reforms on vocational education enrollments. It may also be

possible to isolate the effects of State economic development policies on secondary enrollment patterns. This study of the effects of the academic reform movement will extend and update the analysis of secondary enrollment trends described in the previous study. In fact, it may be possible to use the trend enrollment data for the period 1960 to 1987 to control for changes in enrollment patterns that would have occurred even in the absence of academic reforms and other policy changes.

The next three studies examine the consequences of participation in secondary vocational and academic education, as measured by growth in basic skills, job placement and skill utilization, and earnings. These studies will make use of a number of new, nationally representative, longitudinal surveys of youth*. These data sets provide the information needed to assess both the short-and long-run consequences of vocational education. They also represent very recent, as well as more distant, cohorts.

Job Placement and Skill Utilization will analyze the degree to which high school job training is used in subsequent training and employment. We will examine the extent, and the circumstances under which the use of skills acquired in vocational training declines over time. Rapid technical obsolescence of skills or occupational changes could account for such a decline. The study listed immediately below will assess the effects of skill utilization on earnings.

The Earnings Payoff of Vocational Education will estimate the short- and long-run effects of academic and vocational training on earnings. Since the effectiveness of particular vocational programs is likely to depend on when and whether vocational students use their training, the effects of vocational education will be estimated separately for individuals who go on for additional schooling after they finish high school, individuals who find jobs in the fields for which they were trained, and individuals who fail to obtain training-related jobs.

Which Skills and Traits Matter? will compare the labor market performance of individuals who vary widely in terms of basic skills, (including mathematics, reading, vocabulary, writing, and science), psychomotor abilities, broad occupational competencies, knowledge of the world of work, personality traits, and motivation. Information on the market value of these skills could be useful in designing new or redesigning existing vocational programs.

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* These data sets include the Fifth Follow-up of the National Longitudinal Study of the High School Class of 1972 (NLS-72), which contains detailed information for the years 1972 to 1986 on the post-high school training and work experiences of sample participants, (b) the Third Follow-up of High School and Beyond (HS&B), which spans the years 1982 to 1986, and, (c) the National Longitudinal Study of Youth (NLS-Youth), which contains follow-up information for the high school classes of 1976 to 1981.

The final three studies are designed to supplement and extend the quantitative analyses described above. In contrast to the first set of studies, which rely exclusively on large nationally representative longitudinal surveys of youth, these studies make use of a blend of case studies, fieldwork, analysis of published data, review and synthesis of previous analyses, and quantitative analysis.

Exemplary Vocational Programs and State Systems is a study with two complementary parts. The first part will use supplementary data on schools and vocational programs (collected as a part of the HS&B study) to examine the role of school and program characteristics on the effectiveness of high school academic and vocational programs. Although there is an extensive literature on school effectiveness, not much attention has been devoted to the question of what makes a vocational program effective. Is it important for vocational teachers to have strong ties to the employers? Is it important that vocational teachers be prepared to infuse instruction in basic skills into their courses? Which schools provide better job training: comprehensive high schools, area vocational-technical centers, or specialty vocational high schools? Do these schools provide adequate preparation in basic skills? These questions will be addressed by examining the effects of school and vocational program characteristics on student outcomes: basic skills growth, job placement, and earnings. The second part of the study will consist of case studies designed to identify and evaluate innovative practices in vocational education which are not documented in the supplementary school information contained in HS&B. Possible examples, as discussed earlier, include "2+2" programs and performance incentives based on job placement rates. The study will attempt to identify the conditions in schools, communities, and States which are conducive to developing, adopting, and improving exemplary vocational programs and practices. A goal of this part of the study will be to examine the extent to which rigorous demonstrations and evaluations have been, or could be, used to identify exemplary vocational programs.

Vocational Education Teachers will document the characteristics of one of the most important resources in secondary and postsecondary vocational education: vocational education teachers. The study will examine the extent to which vocational educators have strong links to employers and the labor market and the extent to which they are prepared to infuse instruction in basic skills into their vocational courses.

Comparative National Vocational Education Systems will compare systems of vocational education in this country with the systems of education and training that have been developed in other countries. The results will be used to generate alternative approaches to Federal policy in vocational education.

V. CONDITIONS OF POSTSECONDARY VOCATIONAL EDUCATION

One of the most important and least understood parts of the education and training system is the set of institutions that provide training to youth after they leave the secondary school system. This sector is thought by many to contain some of the most innovative and effective institutions in vocational education. The sector has grown substantially over the past two decades.

In sharp contrast to secondary education, the postsecondary level includes a diverse range of programs and institutions both public and private. It spans institutions that specialize in job training, such as proprietary and public vocational-technical schools; schools that offer a mix of general and occupational education, such as community colleges; institutions that offer various combinations of mostly short-term training, counseling, and other support services, such as State workfare and JTPA programs; and, institutions that offer training as an subsidiary but often important aspect of their operations, such as public and private employers and the military.

The postsecondary sector is not an orderly a system of education and training as are occupational training systems in some European countries, or even the "system" of four-year colleges and universities in this country. The institutions in our postsecondary occupational sector are highly decentralized and enjoy substantial autonomy in governance, finance, and content of programs. The resulting diversity has produced considerable ambiguity and apparent overlap among institutions in program offerings and clientele served.

Mirroring this diversity in institutions and offerings are the patterns of student participation. It is not uncommon for students to move through a variety of different training institutions or programs without receiving a coherent sequence of occupational training. Instead, individuals may take courses in a series of unrelated areas, simultaneously move in and out of the labor market, and ultimately take a job that is unrelated to their prior vocational training. The origins and pervasiveness of this phenomenon, sometimes referred to as "milling around," will be an important aspect of this study area.

The enrollment patterns of students and the diversity and overlap of programs and institutions in the postsecondary sector may reflect serious problems of institutional inefficiency that are wasting students' time. Or, the patterns may, instead, merely be the signs of a vigorously competitive system in which strong incentives are at work to offer quality programs that meet real consumer needs and provide students with the benefits of a wide range of choices. The issue for the Assessment is the extent to which, despite the complexity and ambiguity of the system, students are actually benefitting from the institutional and program offerings available.

Unlike four-year colleges and universities, postsecondary occupational training institutions provide training in many fields where the links between courses, credentials, and job fields are not always well established. In the academic system, students are faced with relatively clear links between courses of study and potential jobs. Successful completion is rewarded with fairly widely accepted credentials of accomplishment and social status. Bachelor's and Master's degrees in many areas are linked directly to work in professional fields. The status and the organization of credentialing and learning are considerably less obvious in postsecondary occupational education. Issues to be pursued in the Assessment are: (a) Should there be greater efforts to create systematic programs of study that are tied directly to jobs? (b) How could vocational educators and employers communicate more effectively about individual qualifications and job requirements without exacerbating problems of overcertification and credentialing?

Finally, Governors and State legislatures are looking to the occupational training institutions to help foster economic development. Having a well-trained and flexible workforce is an advantage in community or regional competion for economic activity. Economic development is also an important goal of Federal vocational education policy. The Perkins Act authorized Title IV, although it currently is unfunded, which is aimed at stimulating partnerships between postsecondary institutions and industry to provide training in emerging areas of high technology.

The strategies employed by State and local agencies to compete for jobs and industry appear to be shifting the boundaries of education and training between the public and business sectors in several important respects. Business and industry are being encouraged to become involved in creating employment and training policy, and public institutions are providing courses aimed at creating a workforce that will attract jobs.

The consequences of these shifts in boundaries in the education and training system are not yet clear. The growing involvement of employers in the postsecondary occupational training system could fundamentally alter the organization of training in relation to work in ways long sought by many, considerably improve the quality and relevance of training, and link students to the labor market. Conversely, the more direct involvement of employers in the training system could ultimately shift the focus of education toward narrow job skills that are valued only in the short-run, and away from more general skills that can be transferred across jobs. Furthermore, the shift of boundaries could substantially alter the allocation of public training resources from needy populations to people easier to train.

Studies: Four studies are planned to examine these conditions of postsecondary vocational education and training.

Characteristics of Postsecondary Vocational Education: Students, Institutions, and Outcomes will describe patterns of enrollment and program completion among different kinds of students and postsecondary occupational training institutions, using information from the available longitudinal data sets. The study will show who is taking how much vocational education coursework and skill training from what postsecondary institutions and other sources at different points in their occupational careers. As indicated in the previous section, the effectiveness of alternative postsecondary vocational programs and experiences will be evaluated in terms of their contributions to growth in basic skills, short- and long-term earnings, and job placement. The major difference between the planned research on secondary and postsecondary education is that the latter must account for the tremendous variation in the nature of postsecondary vocational programs. Individuals frequently attend more than one training institution and work full-time during and between periods of schooling. Indeed, one of the objectives of the research will be to assess the extent to which the training received by individuals at more than one institution fits together or is complementary. The study will make substantial use of several new and extensive data sets, including the Fifth Follow-up of NLS-72, the Second and Third Follow-ups of HS&B, and the NLS-Youth data file.

Innovative Postsecondary Vocational Education Institutions and Programs will examine propositions that postsecondary vocational education can be improved through innovations to (1) link programs within the postsecondary sector and across the secondary and postsecondary levels, and (2) link training with work and employers. Prominent examples of the first type are initiatives in several States to develop so-called 2+2 or "tech/prep" programs, which are designed to provide greater continuity and coherence to training that is split between the secondary and postsecondary levels. Examples of the second type are some proprietary trade schools and some State systems where efforts have been directed to the integration of programs and the involvement of employers in vocational education. The study will evaluate the extent to which such programs attract students and provide them with training and education that is of greater long-term value in the labor market than other kinds of programs. Also included in the analyses will be the barriers that States and institutional leaders have faced in implementing strategies to increase business involvement and develop linkages among institutions, including structures of governance and finance, established policies of accreditation and certification, and competition among institutions. Finally, the study will assess the extent to which innovative approaches to postsecondary training are tried, evaluated, and eventually adopted on a large scale. The potential role of the Federal government in furthering innovation will be addressed.

Vocational Education and Local Economic Development. The effects of vocational education policy on employment and economic growth are most clearly observed at the local level. Case studies will be conducted in

a sample of local economic areas to examine the responses of vocational education and the larger training system of public and proprietary institutions to shifting occupational demands stemming from changing technology and levels of economic activity. Included will be the effects of change in the boundaries of private sector involvement in training on the proportions of long-term and short-term investment in human resource development in the community, levels of employment, who is employed, and dimensions of economic growth. The study will examine how funds from the Perkins Act and other training programs affect responses of the training system to changing demand. Deliberate interventions to improve the operation of local labor markets, such as methods of forecasting future levels of employment, or the use of community-based, collaborative planning for cur rent and future training needs, will also be assessed. The ways in which vocational education can directly contribute to entrepreneurial sources of positive and lasting economic growth will be especially considered.

The Finance of Postsecondary Vocational Education. This study will address issues of the public finance of both the public and private sectors of the system of occupational training and education. Federal and State policies are at work to shape directions of development of the system even though neither level may have established integrated policies of support. Existing data from a variety of sources will be combined to present composite views of the financing of systems of postsecondary vocational-technical and occupational education. The extent of subsidies to different sectors from different sources will be shown. To the extent possible, the study will identify effects of these policies on the supply of training in those sectors and their expansion over time. Of particular importance is the extent to which the Perkins Act complements or works at cross purposes to other Federal programs and State policies of support to effect vocational education. One of the most important of these other programs is student financial aid, which provides far greater assistance to postsecondary vocational education than does the Perkins Act.

VI. THE CHANGING ECONOMY AND ITS SKILL REQUIREMENTS

Important changes are taking place in the structure of our economy, the demographic composition of the labor force, and the distribution of skill training among institutions. These changes have broad implications for policy on occupational training generally and vocational education in particular. For example, a number of studies have suggested that the baby boom generation experienced a tremendous competition for skilled jobs in the 1970s and, as a consequence, tended to "buy" more formal training before entering the labor market than previous cohorts. If so, the passing of the baby boom may lead to falling demand in the near future for formal training and growth in the amounts provided by firms. As this example indicates, major demographic and structural changes in the economy can have large effects on the kinds and amounts of training. They may also lead to growth or decline in different sectors of the education and training system.

The larger issue is the kinds and amounts of skill training needed in different sectors of the education and training system and in throughout the economy to assure employment opportunity, respond to change, and sustain the performance of the economy. Training resources should ideally be directed at the margin to the sectors and institutions that are producing the highest rates of payoff from the training.

The adequacy of resources for training is a critical issue because of the need to restore productivity growth. Productivity fell during the 1970s from historic rates and has not fully recovered since. Shifts in levels of investment in training among sectors of the economy and between firms and the education and training system may be related to productivity growth in important ways.

Recent studies show substantial differences in the amounts of training that are being provided across sectors of industry, and among different cohorts and groups of workers. Much more training is provided in some industries than in others. The majority of this training is being provided to older over younger, and professional over blue collar workers. Practically none is being provided to entry-level workers. Women and minorities are less likely to receive training than older, male workers. Large corporations are much more likely to train than small businesses. Training is more likely in industries undergoing technical change. Such unevenness in the distribution of training may have implications for policies of investment in vocational education and other sources of skill training. Public policy on skill training could be intended to correct imbalances where investment is warranted.

Finally, research should also examine the assumption that more training is necessarily required for responding to economic change or achieving employment opportunity. People may not be as dependent on formalized training for their performance on the job and ability to move from one job to another (or adapt to new technology) as is sometimes assumed.

Ability to learn on-the-job, informally, may be far more important than formalized skill training. This ability may be related to earlier education that provides the basic skills for learning and imparts an inclination to learn.

Studies: Considerable research is under way around the country on these issues. This research will be synthesized and extended for purposes of the National Assessment and responding to the Congressional mandate. A series of syntheses and small-scale studies may be conducted on topics such as the following:

Structural Change in the Economy. Three forces are currently sweeping through the economy: technology, deregulation, and internationalization. What are the implications of these forces on the demands for basic and job skills? What are the implications for the occupational structure of firms in different industries and the skill content of occupations?

Payoffs of Skill Training. How do the payoffs from vocational education and other formalized skill training compare to payoffs from formal training sponsored by employers and to informal, on-the-job training? What is the contribution of skill training to productivity improvement? What are the effects of educational antecedents on the results of skill training?

Technical Education. Should resources that are being provided for formalized skill training be broadly distributed over occupational areas or directed to some programs and occupations over others? How do the payoffs from "technical" training compare to training in other areas? How broadly do "technical" fields of training range across occupational fields and specialties?

Training and Occupational Mobility. How necessary is training to the ability of people to move from job to job and occupation to occupation? How are the skills that people acquire in moving from job to job and occupation to occupation best described and to what extent does the model still hold of discrete jobs and occupations? What are the implications for skill training?

Demographic Change. What have been the responses of the education and training system to previous swings in the growth and composition of the labor force? What demands are likely to be placed on the training system by future changes in the composition of entering cohorts of youth?

VII. REPORT SCHEDULE

The mandate from Congress calls for a Final Report in January 1989 and two Interim Reports—one in January 1988 and another in July 1988.

The Final Report of the National Assessment of Vocational Education will summarize in one document all of the studies done and respond to the nine items of the Congressional mandate. Featured in this report will be the studies of the Implementation of the Perkins Act, as described in Section II. Two companion volumes will summarize (a) the studies described in Section III on the Access of Special Populations to Vocational Education, and (b) the studies described in Sections IV and V on the Conditions of Secondary and Postsecondary Vocational Education.

The First Interim Report in January 1988 will be a progress report on the National Assessment and describe the major individual studies underway. This due date is about six months after most of the individual studies will have begun because of the schedules required for procurement.

The Second Interim Report will consist of Study Reports on the first two studies on the Conditions of Secondary Education (Basic Skills Growth and Job Placement) and the first study on the Conditions of Postsecondary Education (Characteristics of Postsecondary Education). This report will provide the basic results on the outcomes of vocational education using the several national longitudinal data sets.

In addition to these three reports, which will be prepared by the NAVE staff, all reports accepted from outside contractors will be released for public information and distribution.

Attachment A

CONGRESSIONAL MANDATE FOR

NATIONAL ASSESSMENT OF VOCATIONAL EDUCATION

Section 403 of the Carl D. Perkins Vocational Education Act calls for a National Assessment of Vocational Education (NAVE) to be carried out by the Secretary of Education. The legislation requests discussion with the Congress on the "design and implementation" of a plan for conducting the Assessment prior to the initiation of research activities.

The mandate for the National Assessment calls for "descriptions and evaluations" of:

- The vocational education services being delivered to special populations.
- The effects of the Act on modernizing the Nation's vocational education system and meeting the changing needs of the workplace.
- The resources required to meet adequately the Nation's job training needs.
- The impact of vocational programs on the academic skills and employment opportunities of students.
- The coordination of vocational education programs with employment training and economic development opportunities in the States.
- The coordination of vocational education programs and services available for students who are handicapped or disadvantaged.
- The skill levels and occupational competencies developed by the States to assess their vocational education programs.
- The effectiveness of vocational education programs for individuals with limited-English proficiency.
- The effectiveness of bilingual vocational and instructor training in meeting the needs of adults with limited-English proficiency.

A Final Report presenting the findings and recommendations of the NAVE is due to the Congress by January 1989.

Attachment B

CONGRESSIONAL MANDATE AND STUDY AREAS OF THE NATIONAL ASSESSMENT

Item of Mandate	Perkins Implementation	Access of Populations	Conditions of Secondary	Conditions of Postsecondary	Skill Requirements
Services Delivered.....	X	X			X
Program Improvement.....	X		X	X	X
Resources Adequacy.....	X	X	X	X	X
Economic Development.....			X	X	X
Academic Skills.....	X	X	X	X	
Program Coordination.....	X	X		X	
State Skill Definitions.....	X				
LEP Students.....	X	X			
Bilingual Vocational.....		X			